FAIRCHILD
SEMICONDUCTOR™

207 775 8100 Tel

207 775 8755 Tel Direct
207 761 6020 Fax

dan.boxer@fairchildsemi.com

Fairchild Semiconductor
333 Western Avenue
South Portland, Maine 04106

Dani l E. Boxer
Executive Vice President
General Counsel
Chief Administrative Officer

March 7, 2000

BY FEDEX

Babak Sani, Esq.
Townsend, Townsend & Crew
Two Embarcadero Center, 8th Floor
San Francisco, CA 94111

Re: Invention Disclosures entitled
"New Passivation Scheme for Bumped Wafers"
Docket No. 17732-19420
"Stacked Package Using Flip Chip in Leaded Molded Package Technology (FLMP)"
Docket No. 17732-19450
Inventor: Rajeev Joshi

Dear Babak:

Enclosed are two invention disclosures for drafting into patent applications. These applications were approved by our Patent Committee and I am including the minutes from that meeting. Please contact Rajeev directly to begin the process of drafting the applications.

As with other files assigned to your firm, our docket number must be included on all documents/correspondence with copies to Pierce Atwood.

Please acknowledge receipt of this file. Thanks for your assistance.

Best regards,

Daniel E. Boxer

cc: Izak Bencuya
Stephen Schott
Chris Caseiro

FAIRCHILD
SEMICONDUCTOR TM

Invention Disclosure

DO NOT WRITE IN THIS SPACE

Assigned File No:NUMBER HERE 17732-19420

Date of receipt: *00/00/0000*By: *TYPE HERE*

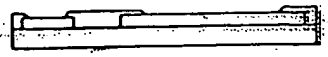
Please complete each item of this form. If an item is not applicable, enter "N/A"

General Information Concerning the Invention

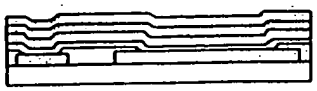
Title of invention: *New Passivation Scheme for Bumped Wafers*

Brief description of the invention: *This method discloses a unique method of using Titanium as a passivation layer as well as an etching mask for a copper inner layer. Copper inner layers (over aluminum) is preferred as copper has higher conductivity (thermal and electrical) over aluminum, offers a solderable surface and can be plated or sputtered. A thicker copper layer is thus easier to fabricate as compared to a thicker aluminum layer. However one needs a passivation layer over copper to protect it. Using Titanium eliminates the need for using Silicon Nitride or other conventional passivation methods as titanium will tend to passivate itself and adhere well to copper as well as aluminum forming a good interlayer. One mask step at our fab can be saved by this process.*

Attach photocopies of all pertinent documentation. Each page must be signed, dated, and witnessed by two other persons who have read and understood the description of the invention.

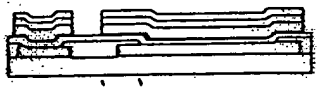


Non-Passivated Die



Sputter Ti/Cu/Ti/Cu

Photo Process, Isolation



Isolation Etch, Cu/Ti/Cu

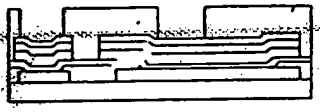
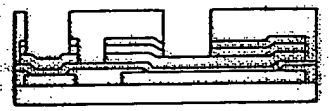
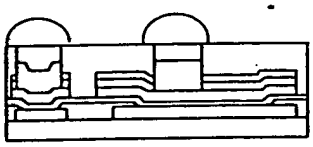


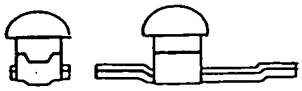
Photo Process, UBM of Bump



Cu/Ti Etching



Plating, Cu, Solder



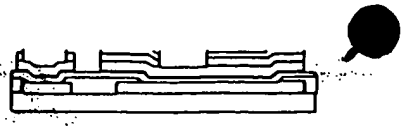
PR Stripping

NEW PROCESS (Ti. PASSIVATION)

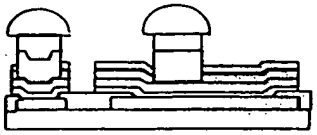
Read & Understood;

2/9/2000

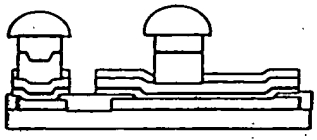
2-16-200



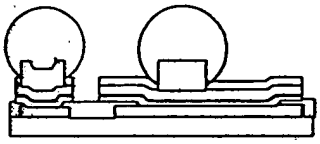
PR Stripping



Ti Etching at isolation



Cu Etching



Solder Reflow

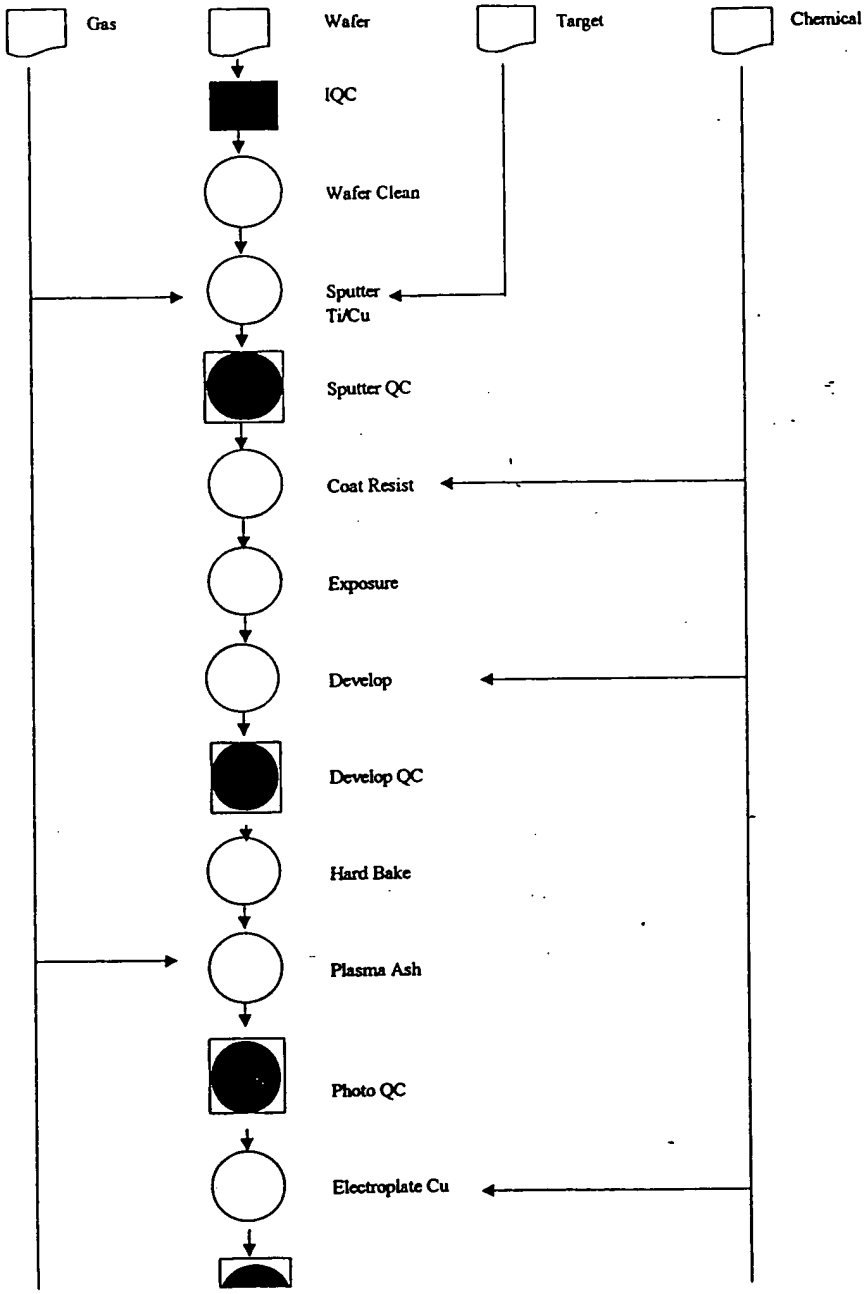
Read & understood:

2-16-2000

R Joshi
2/9/2000

Steven Sapp 2/16/00

Solder Bumping Process Flow



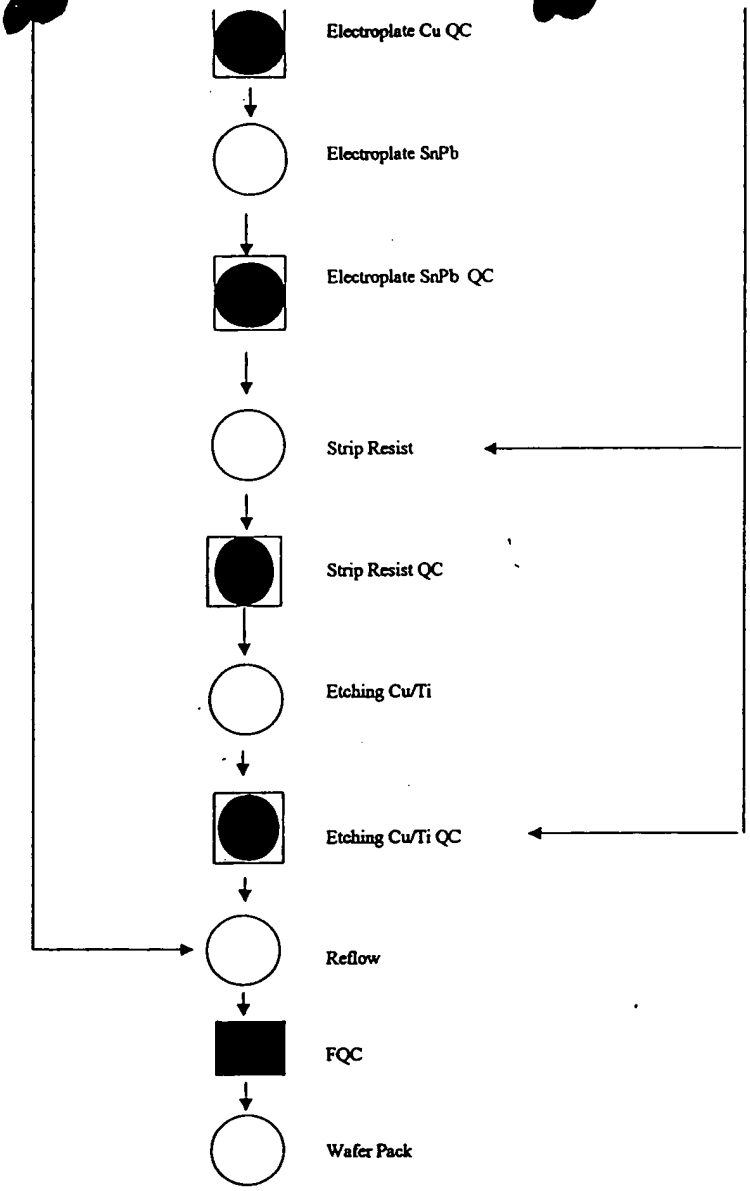
CURRENT BUMP PROCESS

(PRIOR ART)

R Tsui 2/9/2000

2/16/00

2-16-2000



R Joshi
2/9/2000

2/16/00

2-16-2000